

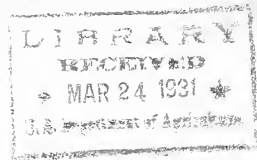
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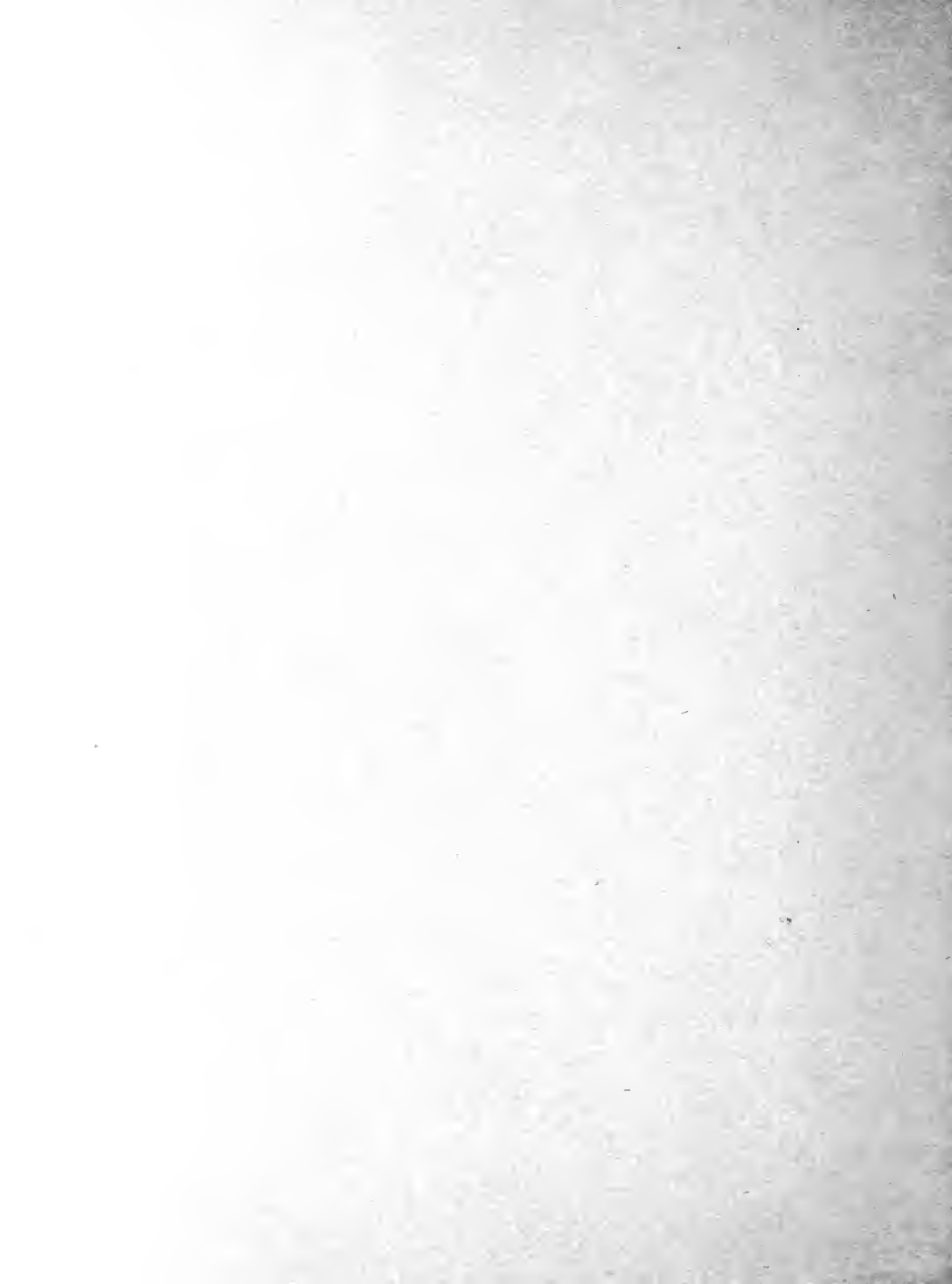
2031



# HOW TO GROW BIG DAHLIAS

113

*How to grow big dahlias*



# How To Grow Big Dahlias

*To those who have never before tried to produce those immense blooms on the modern, large-flowered Dahlia, we offer a few suggestions; based mostly on our own experience. If any beginner finds some point not entirely covered to his satisfaction, we will be glad to answer any questions we can if he will write to us.*

THE preparation of the soil is the first important step in growing big Dahlias, for it will have much effect upon results. The ideal winter treatment would be to have a good thick coat of stable manure (cow preferred) spread over the garden in the fall and left there all winter—to be plowed under in the early spring. In addition to adding plant food, the fibrous nature of the manure is a big help to the mechanical condition of the soil. If manure can not be broadcasted in the fall, it will be almost as beneficial if applied very early in the spring.

If manure is not obtainable, the next best thing is a cover crop. A cover crop is one that thrives during the winter, growing on plant food that would otherwise be leached from the soil before spring. When the cover crop is plowed under, this plant food is restored to the soil. Cover crops are sometimes called "green manures." Authorities tell us that a good cover crop turned under is equal to several tons of manure per acre.

We find rye is the best cover crop we can use for Dahlias because it is very hardy and can be planted after we have dug our roots in the fall. Sow it on top of the soil at the rate of two bushels per acre, then work it in with a rake or harrow it in if you are using a horse. It should be plowed under in the spring when only eight to twelve inches tall and still succulent—preferably when the ground is wet so it will quickly rot.

As another substitute for manure, there are many who pile grass clippings, leaves, and other vegetable matter into a compost; covering it with a thin layer of soil to hold in the heat and hasten decomposition. While this is only a substitute for the real thing, it will do nicely if chemical fertilizers are to be used later. When well rotted, it is spread over the ground and turned under the same as manure.

While the conditions suggested above are desirable for Dahlias, don't be discouraged if you do not have them. If your garden will grow good vegetables, it can be made to produce fine Dahlias—no matter if it has been as bare as a board all winter.

We do not recommend that Dahlias be planted in grass sod unless the sod was plowed under early during the preceding fall. Newly plowed sod is very hard to work. It contains an immense amount of fibrous matter, many weed seeds, and very often is infested with cut worms. If fall plowed, the fibrous matter has time to decay and become incorporated with the soil over winter. Pests and weed seeds, too, will be

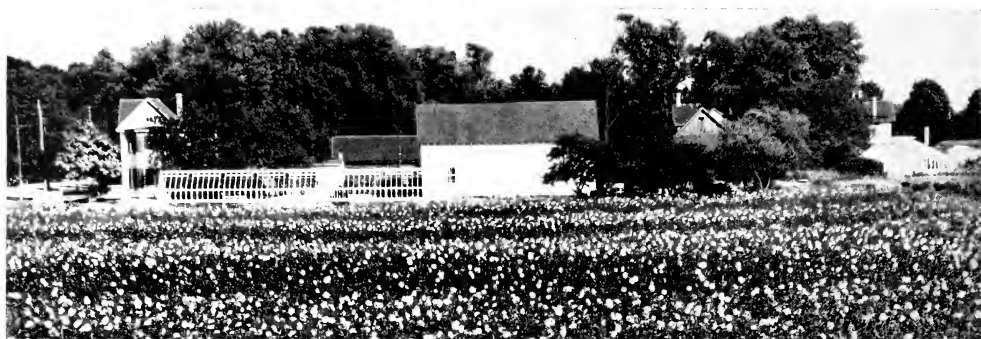
reduced by winter exposure. It should not be necessary to plow again in the spring.

Whether manured, cover cropped, or bare, spade up your garden (or have it plowed) as deeply as possible several weeks before planting time. Have it plowed if you can, for in spading much of the soil is simply moved instead of turned over. Then, too, if a cover crop is to be turned under it will be very hard to do a good job with a spade. Try to plow a little deeper than last time. Many soils are shallow, having only a thin layer of topsoil over hard subsoil that is difficult to plow. In that case, try to turn up about an inch of the hard subsoil.

Why? Because this subsoil needs only to be turned up and exposed to the sun and weather to become equal to, and part of, the top soil. By turning up an inch of new subsoil each year, your top soil will gradually become deeper. Every inch thus gained will result in one extra cubic foot of easily penetrated top soil in which the roots of each plant may feed—if the hills are three feet apart by four.

Shallow soils may also be deepened by removing the top soil from a long narrow strip of the garden, working well rotted manure into the subsoil thus exposed, and covering again—with the top soil from the adjoining narrow strip of ground. This process is repeated again and again until the desired space is covered. We don't recommend this method to any fan who does his own work.





If you did not have manure turned under in your garden, you will probably want to tone up the soil somewhat. About fifty pounds of bone meal broadcast over each thousand square feet of garden surface should start your Dahlias off nicely. Twice that amount will do no harm if the soil is very poor. The bone meal should be spread over the ground right after it is plowed—before the clods are broken up. While the soil is being smoothed the fertilizer will be thoroughly worked in. Dahlias should not be planted here within the next two weeks—not even then on plots without irrigation unless a good rain falls during that time. A rain before planting will put the soil in the proper condition to work, and will also make the bone meal available to the young plants. Chemical fertilizer is useless without water.

Why do we recommend bone meal at this time? The main plant food derived from bone meal is phosphoric acid. This phosphoric acid is good for young plants, and makes them send their root systems more deeply into the soil—thus preparing them for the work to come later. While any well balanced garden fertilizer would help at this time, bone meal is to be preferred because of its twenty to thirty percent phosphoric acid content.

The distance apart your Dahlias are planted may vary with your supply of stock and the method you intend to use in cultivation. If your garden is large enough to use a horse in cultivating, your rows should be at least four feet apart. If a hand cultivator or a hoe is to be used, the rows need not be so widely separated. If your soil is rich, or if you intend to use plenty of fertilizer, it will be wise to leave plenty of room between the hills of the row. Many a beautiful bloom has been ruined by a branch from the adjoining hill rubbing against it in the wind. Our own Dahlias vary in the different fields from eighteen inches to three feet apart. Where we grow stock for roots alone, we plant them close together in the row; but where we intend to produce blooms we plant three feet apart.

Don't stand the root on end when you plant it. Place it on its side with the sprout turned upward just about in the place you want your hill to come up. Plant each root in the bottom of a hole about six inches deep. Or, if you are using a horse, place the roots where you want them in the bottom of a furrow six or seven inches deep and cover them with

a hoe or drag. Dahlias may be planted a little deeper or not quite so deep without noticeable variation in results. Planting fairly deep, however, insures more moisture than would be found nearer the surface. If you are setting out plants instead of roots, try to keep the ball of earth intact that is packed around the roots of each plant. Set each plant deep enough in the soil so that its roots will be a little deeper than they were in the paper pot in which it was packed. Give each plant about a quart of water when you set it out and keep it shaded during the hottest part of the next few days—unless you are fortunate enough to have cloudy weather or rain. In that case you will need shade only if the plant begins to wilt when the sun finally does come out. A peach basket turned up side down over a plant serves admirably to shade it. This is easy to put on and take off, admits light and air through its cracks, and acts as a wind break for the tender young plant. The basket should be weighted down to prevent blowing over and rolling on the plant.

If you are planting both roots and green plants, it would be a good idea to set out your green plants about two weeks before you plant your roots, that is, if you want both lots to be at their best about the same time. The reason is that the bush growing from a root will mature and bear blooms more quickly than the bush growing from a plant. Or it may be more desirable to you to plant them both together and have the Dahlias from plants coming on a little later.

There has been much controversy over plants versus roots, some claiming that roots are superior while others hold otherwise. We think their relative merit depends upon what is wanted. For big blooms, there is no question but what plants give every bit as good results as do hills grown from roots. The advantage of plants is that they cost only half as much as roots of the same variety—giving twice the number or hills for the same money. On the other hand, if you want good clumps (clusters of roots) at digging time in addition to fine blooms, the roots will turn out best if they are planted at the same time as the plants.

The principle objection to plants is that their root increase is not dependable. A Dahlia plant may grow into a fine bush bearing excellent blooms, and yet produce no tubers, if it was not rooted properly as a cutting. All Dahlia cuttings

should be rooted at the nodes, or joints, if they are to produce good tubers. If you are not sure your cuttings were properly taken, it is well to plant them an inch deeper in the soil than they were in the pots in which they came. This insures at least one joint being deep enough in the soil to make good roots. Every plant we sell is grown from the proper kind of cuttings.

It has been our experience that plants of most varieties will grow almost as nice clumps as roots provided they are planted earlier. Why does it take plants longer to mature? Probably because the green plant has been taken from its mother root (as a cutting) at a very early age and is fending for itself; while a hill growing from a root is supplied by that root with most of the food it requires.

There are times when this tendency of the root to feed the hill is a hindrance rather than an advantage—for instance, when the root is a very big one. In this case the root is able to feed the hill until it is a foot or two high. By that time the root that was planted has itself thrown out feed roots and is drawing nutrition from the soil. It goes right on feeding the hill through its own root system. The hill has no need to throw out roots of its own, and as a result, there will be found no clump of new roots when the hill is dug. Only the old tuber remains—a little larger than when planted—with a few feed roots. Often this old root, or mother tuber, shows an eye and could be planted again the next season if necessary. If this is done, however, it should be cut in half to discourage its ambition to do all the work itself. That will force it to throw out roots near the stem end and result in a much better clump the next season. Cutting the ends off of roots that are too big does not harm them if the wound is dusted in sulphur. Damage will rarely result even without sulphur if the root is planted at once after being cut.

So, in spite of the fact that a great many people prefer and ask for large roots, the ones not so big are better—and a lot more likely to give a good crop increase.

The best time to plant Dahlias varies, of course, with the

locality. Here in the southern part of New Jersey we expect our best blooms from stock planted about the first of June—though we plant Dahlias from the first of May until the Fourth of July. Dahlias planted after that date are usually cut down by frost before they have borne many blooms. Our Dahlias start to bloom in about a hundred days from

planting time. Remember that the Dahlia is a fall blooming flower and likes cool weather. If planted too early it is likely to bloom itself out weeks before it should be at its best.

It won't be so very long after they are planted that your plants will be a foot or so high. Before that time a stake should be driven at each hill, to which the plant will later be tied. The stakes we use are about one inch square by four feet long, pointed on one end so they will drive easily. Oak stakes are

very durable and they stand the pounding without splintering while being driven. The country saw mill is a good place to get such stakes. If you have Dahlia growing friends you could combine your orders to get the better price on a larger quantity. If sheltered in the winter they will last for years. Many growers drive their stakes when they plant their Dahlias. Sometimes two hills are planted very close together and tied to one stake that has been driven between them. However, we don't drive our stakes until the plant is nearly ready to tie up—because the stakes are in our way during the several cultivations the plant receives before that time. The stake should be driven about six inches from the stalk. We have never known of a Dahlia hill being damaged by the stake when driven at the time recommended.

When the young plant is tall enough (from twelve to eighteen inches) it should be tied to the stake about half way up its height. Care should be taken to do this loosely enough to let the stalk grow, yet tight enough to support it in case of a heavy wind or storm. We use binder twine for tying, though many like raffia. Whatever you use should be strong, though soft enough not to cut the stalk. Strips of thin cloth would do. [PLEASE TURN TO PAGE EIGHTEEN]



*One of our fields in bloom. For size comparison, the stakes you see average less than one inch square. Other fields are shown below and at the top of page two.*





We are proud to present "TANG"—our first introduction since Jane Cowl. Other pictures of this fine new Dahlia will be found on pages five, twelve, and fifteen. It will be sold only as plants this season—at \$7.50 each.



**TANG** This picture gives a much better idea of the massive depth of the flower. Petals flare backward as the center continues to open. Not only do the blooms keep well, they actually swell in size after being cut and placed in water where it is cool and dark. Notice the splendid stems and the vigorous bush. If you like Jane Cowd—try TANG.



The list of DAHLIAS we offer on this and the following pages is purposely confined to a limited number of selected varieties. Some of the finest new introductions are listed, as well as many of the standard sorts. The more expensive ones are offered as plants—for plants afford a saving of one-half to anyone who can give them the slight extra care (shading) they require during the hottest part of the first few days. We can get them to you in good growing condition. If you prefer roots we can send them (except where quoted "plants only") at twice the plant price. Whether plants or roots, we guarantee whatever we supply to be satisfactory to you in every respect.

**ALBERT H. VESTAL.** (Eastman.) Beautiful blooms, with curled and twisted petals of glowing old rose; held erect over a rather tall bush on excellent stems. A formal decorative.

**Plants only; \$2.50 each**

**A. O. KENNY.** (Darling.) Large formal decorative flowers of perfect form and great depth, carried on good stems. The color is a rich bronze buff shade of one tone, with the center tinted with bronze. An excellent all-round variety, and a prolific bloomer.

**Plants, \$2.50 each; three for \$6.25**

**ASBURY PARK.** (Wood-Burpee.) An immense formal decorative, with long regular petals of a rich coppery-salmon in one shade throughout the entire flower. A Roll of Honor Dahlia.

**Plants only; \$7.50 each**

**AZTEC GLORY.** (Broomall-Success.) One lady, passing through our field, found this variety. "Oh look," she called to her husband, "here's a whole dish of cole slaw." It was a very apt description, for the immense bloom is made up of a multitude of narrow petals—rich, clear, golden-yellow, without tints or blends. The flower is held erect on an excellent stem, but the bush is not very tall.

**Plants, \$3.00 each; three for \$5.50**

**BETTY IVINS.** (F. & M.) A very large, full-petaled flower of rich salmon color, overlaid with amber and showing a rosy-pink reverse. The stems are good, though the bush is of only medium height.

**Plants, \$1.50 each; three for \$3.75**

**BUCKEYE BRIDE.** (Roberts-Peck.) Rich, clear geranium-pink—a color unusual in Dahlias. The bush is not tall, but carries heavy insect-resisting foliage and bears the large flowers profusely on excellent stems. The blooms keep well and have exceptional merit as cut flowers.

**Plants only; \$3.75 each**

**CITY OF TRENTON.** (Prentiss.) An immense full-centered formal decorative in the bronzy autumn colors—a rich glowing buff with a darker reverse to the petals. It is a splendid grower on a tall bush, with stems that are stiff and straight and heavy dark green foliage.

**Plants, \$1.50 each; three for \$3.75**

**CORA BUTTERWORTH.** (Chapman.) Large blooms of clear, glistening primrose yellow; held high above the foliage on perfect stems. A high centered informal decorative with wavy petals. It can be grown to very large size. A winner at the New York Show and a Roll of Honor Dahlia.

**Plants only; \$3.75 each**

**DERRILL W. HART.** (Broomall-Success.) A large and well-formed informal decorative in real autumn coloring that is hard to describe. Coppery shades, henna and brown. A Roll of Honor Dahlia that is giving excellent results everywhere.

**Plants, \$2.50 each; three for \$6.25**

**DOROTHY STONE.** (F. & M.) A huge informal decorative in a true deep shade of pink; with a very full center and great substance to the petals. A prolific bloomer, with the flowers held on straight strong stems well above the dark and leathery foliage. A Roll of Honor Dahlia.

**Plants only; \$3.75 each**

**DWIGHT W. MORROW.** (Dahliadel.) Gigantic size and rich red color combined to make this spectacular Dahlia much admired at the Atlantic City Show, where it won as the best informal decorative seedling last fall. Another Roll of Honor Dahlia.

**Plants only; \$7.50 each**

**EAGLE ROCK WONDER.** (Success-Broomall.) This is a gigantic semi-cactus in the orange and orange-buff shades, with tints of coral-pink and coral-red. It is a profuse bloomer, with the enormous flowers held erect on strong stems—and every one of them holds its full center to the end of the season. A Roll of Honor Dahlia.

**Plants only; \$7.50 each**

**EDNA FERBER.** (F. & M.) One of those easy-to-grow Dahlias.

It is a semi-cactus of huge size, with petals that curl and twist to make a very full flower. In color, a glistening coral shading to old gold at the base of the petals. Its stem, habit and foliage are excellent, and it has been a great prize winner. A Roll of Honor Dahlia and one we strongly recommend.

**Plants, \$1.00 each; three for \$2.50**

**ELIZA LONDON SHEPARD.** (Peacock.) A clear, rich orange-gold informal decorative—the reflex a deeper shade of the same color. The blooms have plenty of substance and keep well. The bush is strong and vigorous, holding the flowers from facing to upright on long stiff stems. Another Roll of Honor Dahlia.

**Plants, \$5.00 each; three for \$12.50**

**FORT MONMOUTH.** (Kemp.) A great big long-petaled informal decorative of spectacular rich claret. Though of unusually bright red, the petals never burn. An immense Dahlia of wonderful formation, held on a stiff stem over a tall and vigorous bush. Another Roll of Honor Dahlia.

**Plants, \$2.50 each; three for \$6.25**



Note the root system and tubers already started to form on this husky young green plant. Such plants, in little pots, cost only half as much as roots.

DOWNS DAHLIA FARMS  
 CLAYTON, NEW JERSEY

Name \_\_\_\_\_

Street or Box Number \_\_\_\_\_ County \_\_\_\_\_

City or Town ..... State .....

[illegible]

DID YOU READ THE OTHER SIDE?



## HOW TO ORDER

The order blank was placed on the other side to make ordering easy; but if you prefer to write a letter, by all means do so.

- ☐ Early orders will be rewarded with a packet of Dahlia seed—as long as they last. See page 15 and mark an X in the square at the left of this paragraph.

The very best way to buy is to interest two friends and take advantage of the reduced price on three of each kind. Your saving is twenty per cent.

If you'd like your order shipped on a certain date, mention it on the blank somewhere. We will obey if possible. If you specify no date, we will send the Dahlias when the proper planting time arrives.

Send the money to pay for your order in any way convenient—check, money order, or even stamps if you like. But please don't send stamps or cash unless you send your letter by registered mail. The risk is too great.

- ☐ You are entitled to a root of Jane Cowl free if your order amounts to \$12.50 or more. See bottom of page 16. If you want it, mark an X in the square at the left of this paragraph. You can give your root to a friend if you already grow Jane Cowl.

You can get roots of many of the varieties we offer here as plants. Our root price is just two times the price quoted for plants. Write us if you don't find what you want.

See the “Hard Times Committee” appointed on page 12. That is a mighty good offer.

Blooms far bigger than the crown of your hat can be grown with the Big Dahlia collection at the bottom of page 10.

If you ever bought anything from us that did not prove entirely satisfactory will you tell us just what was wrong in the space below? On the other hand, if we have pleased you, will you fill the space with the names and addresses of some of your friends who grow Dahlias?

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**FORT WASHINGTON.** (Rindfleisch.) A formal decorative of dark mahogany-red—the largest Dahlia of this color known. The bush, too, is strong and robust, and the stems are stiff and straight. A good exhibition variety—and a Roll of Honor Dahlia. **Plants, \$1.25 each; three for \$3.25**

**FRAZIER.** (Peacock.) A formal decorative of rich glowing oriental red, tipped with yellow, with yellow at the base of each petal. It is dwarf in habit, with thick leathery foliage and good stems. Keeps well and makes an excellent cut-flower. **Plants only; \$2.50 each**

**GLORY OF MONMOUTH.** (Kemp.) For beauty in a growing plant, this variety has few equals. The plant is just tall enough; the stems are perfect—and each is topped (umbrella fashion) with a formal decorative bloom blending from light orange to shades of strawberry-pink. Not a large Dahlia, but for general satisfaction it is hard to beat. **Plants, \$.75 each; three for \$1.85**

**GRAF ZEPPELIN.** (Nolet.) A formal decorative of pure white flowers borne freely, with good stems, on a tall bush that requires no pruning. It was Certified at Storrs and is a Roll of Honor Dahlia. **Plants only; \$3.75 each**

**HARRY MAYER.** (Success.) Beautiful silvery-pink, with a deeper rose-pink reverse—a formal decorative that can be grown to immense size for exhibition. The stems are good and the foliage dark and vigorous. Bush is not very tall and seldom requires staking. **Plants, \$.75 each; three for \$1.85**

**HELEN IVINS.** (F. & M.) An informal decorative of orchid-lavender. It begins to bloom early and holds its color throughout the season. Blooms very freely, has good stems and tough leathery foliage. Another Roll of Honor Dahlia that is giving great satisfaction. **Plants only; \$2.50 each**

**IDA PERKINS.** (Montrose-Perkins.) A pure white formal decorative; finely formed and with a substance of petal that gives it long lasting qualities when cut. Upright and sturdy, it is one of the best of whites. An Achievement Medal winner and a Roll of Honor Dahlia. **Plants, \$1.00 each; three for \$2.50**

**J. D. TORBERT.** (Eastman.) This informal decorative won a Certificate of Merit last fall at Storrs. Flowers of salmon, gold and apricot in color combination, over a tall, free-blooming bush. A Roll of Honor Dahlia. **Plants only; \$5.00 each**



*In preparing for shipment, the plant is taken from the clay pot and placed in the paper one shown on the right; then packed in a square nest of moss as shown on the left.*

**JANE COWL.** (Downs Dahlia Farms.) The greatest Dahlia of them all—the Dahlia that has given greater satisfaction the country over and won more prizes than any other since it was introduced. See the picture on page 17 and description there. **Plants, \$2.00 each; three for \$4.50**

**JERSEY'S BEAUTY.** (Waite.) Beautiful pink in color, with lovely formation, excellent stem and fine keeping qualities. This is the most popular pink cut-flower Dahlia in any market. A formal decorative with everything to commend it. **Plants, \$.40 each; three for \$1.00**

**JERSEY'S BEACON.** (Waite.) An informal decorative with Chinese scarlet petals that are rolled up lengthwise to show a paler reverse—giving an unusual two-toned effect. The flower is almost globular in form, and of very good size. **Plants, \$.50 each; three for \$1.25**

**JIM MOORE.** (Loller.) This is a deep, extra long petaled Dahlia of the formal decorative type. The color is primrose-yellow, shading to gold. It is a good bloomer on long stems. A Roll of Honor Dahlia that gave an excellent account of itself in last season's dry weather. **Plants only; \$.75 each**

**KARL BONAWITZ.** (Dahliadel.) A semi-cactus of brilliant, velvety-carmine, with sufficient size to assert itself—while the form and color make it gracefully artistic. A good keeping variety, on a splendid bush with excellent stems. **Plants only; \$5.00 each**

**KATHLEEN NORRIS.** (Klein-F. & M.) A great exhibition variety—the first to win the Achievement Medal at two shows. An immense bloom, informal decorative in type, true rose-pink in color—later deepening to mallow-pink. It is a many petaled, full centered flower of great depth, held on a perfect stem over a bush that, for us, does not grow very tall. It is a good bloomer, the flowers keep well—a commendable Dahlia in every respect. A Roll of Honor Dahlia. **Plants, \$5.00 each; three for \$12.50**

**KEMP'S VIOLET WONDER.** (Kemp.) Impressive blooms of rich violet, with an underlying tone of royal purple. An informal decorative of massive proportions, borne on strong stems well above the tall plant. This unusually beautiful variety has been Certified and was many times a winner. A Roll of Honor Dahlia. **Plants, \$2.50 each; three for \$6.25**

**KING MIDAS.** (Peacock.) The plant is not tall, but is strong and sturdy. It bears immense exhibition blooms of clear golden-yellow; beautiful full centered flowers on the best of stems. This informal decorative is one of the finest we ever grew. A Roll of Honor Dahlia. **Plants, \$2.50 each; three for \$6.25**



*Moss packed cartons holding the plants are then packed tightly in ventilated corrugated (above) or wooden (page 11) boxes. Long sticks brace each plant to its proper place in the box. We have sent green plants successfully all the way to the State of Washington in this manner.*



**KING MIDAS**—informal decorative type. Petals of formal decorative are flat, broad and in more regular arrangement.

**MARION BROOMALL**. (Broomall.) From a center of white this big cactus blends into clear pink lilac, which lightens toward the tips of the long petals. The bush and the stems are good.  
Plants, \$.80 each; three for \$2.00

**MARTHA KEMP**. (Kemp.) Warm buff in color, shading to apricot-yellow. These informal decorative blooms are very deep and of fairly good size; borne on fine stems over a bush of great vigor.  
Plants, \$.35 each; three for \$.875

**MINNIE EASTMAN**. (Eastman.) A semi-cactus of light flame color, with shadings of deep yellow. The rather tall bush is unusually husky, and produces its blooms in great profusion on long stiff stems. Roll of Honor Dahlia. Plants only; \$2.50 each

**MONMOUTH CHAMPION**. (Kemp.) A giant flower of brilliant, glistening, orange flame that has won many a prize from keen competition. A truly great Dahlia that made good everywhere in spite of the prolonged drought last summer. Its wide spreading bush of strong vigorous growth produces many immense blooms—each with a perfect stem. A Roll of Honor Dahlia.  
Plants only; \$.50 each



**MRS. ALFRED B. SEAL**. (Seal.) Out of the West comes this unusually beautiful informal decorative of pure rich glowing old rose. The deep blooms—large enough to exhibit—are held proudly over a superfine bush. Not another Dahlia in your garden is anything like its color.  
Plants, \$.50 each; three for \$12.50

**MY MARYLAND**. (Downs Dahlia Farms.) This informal decorative has not been able to come through the last two trying seasons with success equal to its garden mate, Jane Cowl. It is, nevertheless, a lovely thing in clear rich pink—each twisted petal daintily tipped with ivory. The bush, stem and carriage are good. It is an Achievement Medal winner, was certified at Storrs, and is a Roll of Honor Dahlia.  
Plants, \$.25 each; three for \$.625

**ORIENTAL BEAUTY**. (Barker.) An excellent incurved cactus of rich true pink—delectable in color and exquisite in form. This is one of those Dahlias we hope always to grow. The bush is strong and the stem is good, and even though the blooms are, with us, not borne profusely, we recommend it highly. A Roll of Honor Dahlia for the second successive year.  
Plants, \$.25 each; three for \$.625

**POP STEWART**. (F. & M.) This formal decorative is a marvel in coloring—a delicate shade of lilac-pink found in no other variety. The bush is not tall, and usually does not require staking. The centers are full, the stems are like wire, and it is one of our best keeping varieties when cut. It blooms very freely and the flowers can be made to attain great size. Taken all around, it is one of the best pink Dahlias for cutting. Certified.  
Plants, \$.75 each; three for \$1.85

**ROBERT E. LEE**. (Peacock.) Blooms galore of brilliant, glowing red—a red that stays red in the sun. The flowers are not large, but are borne abundantly on a bush of excellent habit, and each is held facing to upright on a cane-stiff stem. A Roll of Honor Dahlia and a good one.  
Plants, \$.50 each; three for \$12.50

**ROBERT TREAT**. (Muehler.) Another red—almost the color of the American Beauty rose. The formal decorative blooms are large and are borne in profusion over a tall and vigorous plant. Florists like its color and stiff strong stem.  
Plants, \$.50 each; three for \$1.25

**ROMAN EAGLE**. (F. & M.) A formal decorative of brilliant burnished copper color—a very attractive autumn shade. The flowers are medium to large, are borne freely, and have good stems. The variety was Certified.  
Plants, \$.50 each; three for \$1.25

**SALBACH'S WHITE**. (Salbach.) This full deep white formal decorative has firm petal texture and good keeping qualities. These, with its fine stem and habit, make it a favorite with florists.  
Plants, \$.75 each; three for \$1.85

**SANHICAN'S BLUEBIRD**. (Sanhican.) An uncommon blending of violet with a bluish tint that comes nearer to blue than any other we know. The flowers are medium to large, with wire-like stems; and there is just enough kink in the petals to put it in the informal class. It is a prolific bloomer and we recommend it highly where unusual color combinations are desired.  
Plants, \$.75 each; three for \$1.85

## BIG DAHLIA SPECIAL:

We especially recommend four varieties to produce giant flowers. They are Jane Cowl, Kathleen Norris, King Midas and The World. Each one is a different color and easy to grow. Read their descriptions, then

let us send you one green plant of each—four plants in all—for \$10.00 prepaid. You can grow these Dahlias as big as the crown of your hat by following our growing instructions elsewhere in this booklet. When you order, just ask for the Big Dahlia Special.



**SANHICAN'S NYMPH.** (Sanhican.) A rich primrose-yellow Dahlia that grows to very large size. Each petal is quilled, showing a reverse tinted with rose. It has a fine center, and is held nicely over a plant of medium height. It is an informal decorative.

Plants, \$1.50 each; three for \$3.75

**SANHICAN'S QUEEN.** (Sanhican.) Shades indescribable—a blending of apricot faintly overlaid with brushings of carmine rose; the rose deepening toward the center. The plant has excellent habits, rigid stem, fine foliage; and the flowers are always tightly centered. Formal decorative—and one of our favorites.

Plants, \$1.50 each; three for \$3.75

**SEAL'S CALIFORNIAN.** (Seal.) A beautifully formed informal decorative from California. The flower is of bronzy-buff coloring, with broad center petals slightly cupped. Stems are excellent and the habits good.

Plants, \$2.50 each; three for \$6.25

**SUPREME GLORY.** (Almy.) An informal decorative of golden-yellow, with blushes of scarlet on the face of the flower and deeper and more decided scarlet tones on the reverse of the petals. An impressive Dahlia—not tall but very sturdy and heavily foliaged, and a very free bloomer. A Roll of Honor Dahlia.

Plants only; \$5.00 each

**TANG.** (Downs Dahlia Farms.) Strikingly beautiful, with unusual color and a style all its own. Bright tawny orange flame! Long petals that roll and twist and show a golden buff reverse to such a marked degree that the flower at first appears to have two colors. A deep, full, high centered informal decorative—with a rugged bush, strong stem, and dark green foliage that pass unnoticed in the beauty of the bloom. See pictures on pages 4, 5, 12 and 15.

Plants only; \$7.50 each

**THE WORLD.** (Dahlidel.) An unusually beautiful combination of colors—rich deep rosy-magenta, overlaid garnet, with silver shadings on the edges of its petals. A formal decorative with great substance and good size. The blooms often attain eight to ten inches across them and half as deep. Bush and stems are all that can be desired.

Plants, \$2.50 each; three for \$6.25

**THOMAS A. EDISON.** (Dahlidel.) A formal decorative of royal purple, with staghorned petals. Cane stiff stems hold the immense flower over dark green insect resistant foliage. A Roll of Honor Dahlia.

Plants, \$5.00 each; three for \$12.50

**TREASURE ISLAND.** (Dahlidel.) Color: Bright apricot, with gold and rose suffusion and shadings. Flowers are held erect on fine stems, and they carry splendid centers throughout the season.

Plants, \$2.50 each; three for \$6.25

**TRENTONIAN.** (F. & M.) A coppery-bronze decorative, held straight across the top of a cane-like stem. Petals are broad and flat, and have the substance to make it an excellent keeping variety. Certified.

Plants, \$.40 each; three for \$1.00

**WALDHEIM SUNSHINE.** (Peacock.) One of our largest varieties. A huge deep yellow informal decorative, with twisted and wavy petals. It is a very prolific bloomer, and the bush and stem are excellent.

Plants, \$2.50 each; three for \$6.25

**WILL ROGERS.** (Eastman.) A bi-color—lavender and white—arranged to catch your eye and hold it. It blooms early and profusely, carrying very large flowers over a spreading bush of medium height.

Plants only; \$5.00 each

— 0 —

**ADDA PATTERSON.** (Kemp.) A very good white of the semi-cactus type. The flowers run medium to large and are held well above the tall bush on stiff straight stems that are hard to beat. Bloom has good substance and lasts very well when cut. A Roll of Honor Dahlia.

Roots, \$1.50 each; three for \$3.75

**ALICE WHITTIER.** (Reed.) Another big semi-cactus, this one being of clear light yellow. It blooms very freely, over a tall and vigorous bush. It was a Roll of Honor Dahlia, and has won many prizes.

Roots, \$1.25 each; three for \$3.25

**AMBASSADOR.** Peaches and cream, mostly cream. This immense semi-cactus Dahlia was sold for \$50 per root when first introduced. It has often been grown to sensational size, and was a Roll of Honor Dahlia.

Roots, \$.75 each; three for \$1.85



An example of the cactus type. The variety is ORIENTAL BEAUTY—rich true pink in color. See page 10 for description

**BARBARA REDFERN.** (Redfern.) A beautiful blending of old rose and old gold. The blooms are large and are held on fine stems over a husky bush. In type it is a formal decorative, with good size, depth and substance. A Roll of Honor Dahlia.

Roots, \$1.50 each; three for \$3.75

**BONNIE BRAE.** An enormous formal decorative, so large its wiry stem can not hold it erect. The broad flat petals are the color of cream, with pink shadings. An exceptionally prolific bloomer.

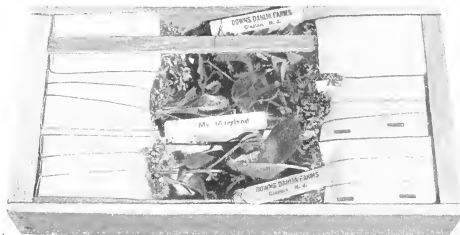
Roots, \$.40 each; three for \$1.00

**CHAMPAGNE.** A stately flower—chamois in a light golden shade, growing darker toward the center. It is a formal decorative of good size, with excellent bush habits and fine stems.

Roots, \$.75 each; three for \$1.85

**CITY OF LAWRENCE.** A monster yellow formal decorative—enormous in depth as well as diameter. It is a free blooming variety, with good stems and a strong husky plant.

Roots, \$.75 each; three for \$1.85





Another view of Tang. Note the uncommon petal arrangement and the depth of the bloom. If you like Jane Cowl, try TANG.

**EARLE WILLIAMS.** Rich scarlet petals, tipped with white. Sometimes the blooms are all scarlet—sometimes nearly all white. Either way it is beautiful. **Roots, \$.80 each; three for \$2.00**

**EASTERN STAR.** (Dahliadel.) Beautiful saffron-yellow, shading to old gold—very effective in mass. The full, high centered informal decorative blooms keep very well when cut. Was a Roll of Honor Dahlia. **Roots, \$.75 each; three for \$1.85**

**ELINOR VANDERVEER.** (Seal.) Rose-pink, with shadings of darker pink. A formal decorative that has become a favorite because of its great size, good depth, excellent stem, and substance of petal. A Roll of Honor Dahlia. **Roots, \$.75 each; three for \$1.85**

**EL DORADO.** (Boston.) Of golden-yellow with amber shadings, this formal decorative has won considerable attention. One of the best of bloomers, it keeps well and has a fine stem. **Roots, \$.80 each; three for \$2.00**



**ELIZA CLARKE BULL.** (Boston.) This large, deep, white formal decorative is always in demand. It blooms freely and is held on good stems well above a bush that does not grow very tall—no more than three feet with us. This variety does not produce many roots. **Roots, \$1.50 each; three for \$3.75**

**EMMA MARIE.** (Dahliadel.) Clear pink of lovely shade, around a creamy-white center. A deep, full flower of the semi-cactus type. Blooms are borne freely on a robust bush, and their stems are good. Fine substance and keeping qualities make it a good cut flower. Was a Roll of Honor Dahlia. **Roots, \$.80 each; three for \$2.00**

**F. W. FELLOWS.** (Stredwick.) This beauty of orange-scarlet is larger than many a newer and better known cactus Dahlia. Its long tightly twisted petals are incurved over a perfect center. **Roots, \$.75 each; three for \$1.85**

**GRANDOLA.** (Broomall.) This brilliant golden-orange decorative was considered one of its originator's more beautiful introductions. The medium large blooms are held erect on a fine stem. It was a Roll of Honor Dahlia. **Roots, \$1.50 each; three for \$3.75**

**JACK O'LANTERN.** (Success.) Brilliant orange and rich red—the center petals tipped gold. Large blooms of this vivid coloring are held erect on a vigorous bush. An informal decorative and a Roll of Honor Dahlia. **Roots, \$1.00 each; three for \$2.50**

**JANE COWL.** (Our own introduction.) This is the greatest Dahlia of them all. It has won more prizes and given greater satisfaction the country over than any other variety since it was introduced. See the picture and description on page 17; also please read the letters about Jane Cowl on page 16. **Roots, \$.40 each; three for \$9.00**

**JERSEY'S GEM.** (Waite.) Another one of the famous "Jersey" group, a formal decorative of delicate lavender-pink. Extremely effective when arranged with white varieties. Has a fine stem, too. **Roots, \$.50 each; three for \$1.25**

**JERSEY'S GLORY.** (Waite.) A large formal decorative of good form. Flowers are a yellow hue of orange. A robust grower that blooms abundantly. **Roots, \$.50 each; three for \$1.25**

**JERSEY'S MASTERPIECE.** (Waite.) Large blooms of brilliant apricot, with tints of orange; very deep, with long graceful petals. In type it is an informal decorative similar to Insulindie. The many flowers are carried on strong, cane-like stems, and the foliage is of good texture. A Roll of Honor Dahlia. **Roots, \$2.00 each; three for \$5.00**

**JUDGE MAREAN.** A large beauty of salmon-pink and golden-yellow, delightfully blended. A very prolific variety of the formal decorative type, on stiff wiry stems over a bush of only medium height. **Roots, \$1.00 each; three for \$2.50**

**KALIF.** A bright scarlet of the semi-cactus type. The good-sized blooms are borne freely; they keep well, have fine stems and good lasting qualities—making it a good commercial red. **Roots, \$.50 each; three for \$1.25**

## "HARD TIMES COMMITTEE"

Not long ago a noted writer on Dahlias (name on request) asked thirty-five Dahlia specialists to list their favorite varieties. The twelve kinds that proved most popular are listed in the columns to the right. Truly a dozen Dahlias so expertly selected is no ordinary collection; so we set an absurdly low price on the entire lot and call it our "Hard Times Committee"—delegated to bring to your garden a multitude of blooms at a very low cost. One root each of the experts' favorite varieties (12 roots in all) for \$10.00 prepaid. Just write "Hard Times Committee" on the order blank, and you save exactly \$4.65.

JANE COWL

JERSEY'S BEACON

JERSEY'S BEAUTY

MRS. I. DE V. WARNER

ELINOR VANDERVEER

MRS. ELINOR MARTIN

EDNA FERBER

SAGAMORE

AMBASSADOR

MARMION

MARIPOSA

TRENTONIAN

DOWNS DAHLIA FARMS  
CLAYTON, NEW JERSEY

Name \_\_\_\_\_

Street or Box Number ..... County .....

City or Town \_\_\_\_\_ State \_\_\_\_\_

**All orders are shipped by mail, at planting time, unless otherwise requested.**

[illegible]



## HOW TO ORDER

The order blank was placed on the other side to make ordering easy; but if you prefer to write a letter, by all means do so.

- ☐ Early orders will be rewarded with a packet of Dahlia seed—as long as they last. See page 15 and mark an X in the square at the left of this paragraph.

The very best way to buy is to interest two friends and take advantage of the reduced price on three of each kind. Your saving is twenty per cent.

If you'd like your order shipped on a certain date, mention it on the blank somewhere. We will obey if possible. If you specify no date, we will send the Dahlias when the proper planting time arrives.

Send the money to pay for your order in any way convenient—check, money order, or even stamps if you like. But please don't send stamps or cash unless you send your letter by registered mail. The risk is too great.

- ☐ You are entitled to a root of Jane Cowl free if your order amounts to \$12.50 or more. See bottom of page 16. If you want it, mark an X in the square at the left of this paragraph. You can give your root to a friend if you already grow Jane Cowl.

You can get roots of many of the varieties we offer here as plants. Our root price is just two times the price quoted for plants. Write us if you don't find what you want.

See the “Hard Times Committee” appointed on page 12. That is a mighty good offer.

Blooms far bigger than the crown of your hat can be grown with the Big Dahlia collection at the bottom of page 10.

If you ever bought anything from us that did not prove entirely satisfactory will you tell us just what was wrong in the space below? On the other hand, if we have pleased you, will you fill the space with the names and addresses of some of your friends who grow Dahlias?

[illegible]



**MARGARET WOODROW WILSON.** (Sanhican.) A formal decorative of creamy-white, suffused pink, with a darker reflex to the petals. It blooms freely, the blooms are large, and the stems are good. It was a Roll of Honor Dahlia.

Roots, \$.75 each; three for \$1.85

**MARIPOSA.** (Boston.) The incurved petals of this delightful semi-cactus are of delicate pink, often flushed violet and giving the effect of lavender. The medium large flowers are borne very freely over an excellent bush. The stems are straight and strong.

Roots, \$.75 each; three for \$1.85

**MARMION.** (Mastick.) Immense blooms of golden-yellow, with a bronze suffusion and a deeper bronze in the full high center. It is one of the largest of the formal decoratives, with a rugged husky bush that may be classed with the best. While the stem is stiff and strong, it does not always hold the flower facing upward as much as we like. Nevertheless, it scored high when grown at the trial grounds and has won many prizes—for few Dahlias can be grown larger. It was a Roll of Honor Dahlia.

Roots, \$1.50 each; three for \$3.75

**MIRAFLORA.** (Broomall.) Violet-pink with tints of white. Petals are long, narrow and almost straight. It blooms freely on good strong stems, and is one of the largest of cactus varieties.

Roots, \$.75 each; three for \$1.85

**MRS. CARL SALBACH.** (Salbach.) Soft rose-pink blooms, flushing lavender. Here is a variety that will produce blooms in great profusion on long wiry stems—without disbudding. It keeps well when cut, and is a fine color for floral designs. We recommend it highly to florists.

Roots, \$.50 each; three for \$1.25

**MRS. ELINOR MARTIN.** (Pelicano.) An informal decorative of mulberry-rose, with a reflex of violet. This is a very popular variety—a good grower, has a good stem, and blooms profusely.

Roots, \$1.00 each; three for \$2.50

**MRS. I DE VER WARNER.** (Marean.) A formal decorative remarkable for its purity of color—clear lilac rose. The plant is vigorous and prolific, bearing many large, long-keeping blooms on fine stems. Taken all around, it is one of the best Dahlias of low price. It was a Roll of Honor Dahlia.

Roots, \$.35 each; three for \$.85

**MR. ALEXANDER WALDIE.** Peaches and cream colors similar to Bonnie Brae. It has a better stem than that variety, though it is not quite so large. A formal decorative.

Roots, \$.40 each; three for \$1.00

**PAPILLON.** (Boston.) An informal decorative of old rose, with a golden suffusion. The blooms are large and borne very freely on a bush of medium height.

Roots, \$.50 each; three for \$1.25

**PAUL MICHAEL.** A big decorative almost the color of gold. Blooms of this variety often reach ten inches across them. A fine garden Dahlia, but not the best of keepers after being cut.

Roots, \$.50 each; three for \$1.25

**QUEEN OF THE GARDEN BEAUTIFUL.** (Burns.) A gigantic formal decorative of very distinctive form. Primrose-yellow in color, with full centers and excellent stems. It was a Roll of Honor Dahlia.

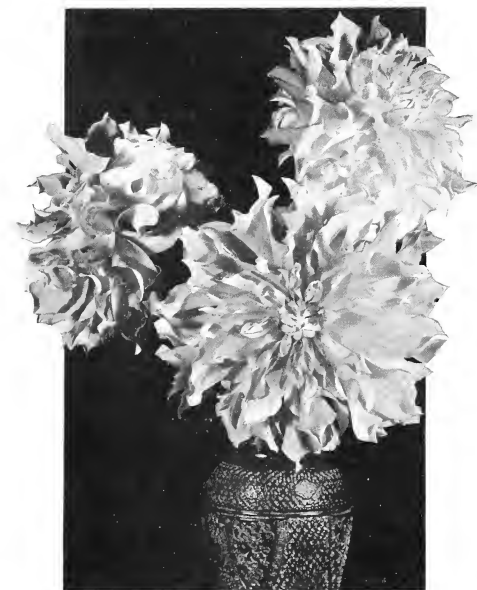
Roots, \$1.50 each; three for \$3.75



## DAHLIA SEED FREE:

Every year a great many customers write asking if we will sell Dahlia seed. Always before we have been compelled to refuse because we can produce only enough for our own use from our fields.

This year, however, we have purchased some seed



If you like Jane Cowl—try TANG

**ROSA NELL.** An immense, deep, full, bright decorative of bright cerise—without tints or shading of any kind. It does not bloom freely, but the plant is of excellent habit, and the stems are fine.

Roots, \$.50 each; three for \$1.25

**SAGAMORE.** (Badetty.) One of the finest golden-yellows—especially for commercial purposes. The blooms are medium large, they are borne freely, the bush is sturdy, the stems are fine,—and the flowers have good substance and will last a long time when cut. It was a Roll of Honor Dahlia.

Roots, \$1.00 each; three for \$2.50

**SISKIYOU.** (Broomall.) Enormous blooms of pinkish-mauve—ten or more inches across them. The bush is small, making the flower look even larger by comparison. Just right as a border for your Dahlia garden.

Roots, \$1.50 each; three for \$3.75

**THE LEMONADE.** (Ward.) This large clear yellow informal decorative has been called one of the finest Dahlias ever originated in New England. It was a Roll of Honor Dahlia, and is commendable in every way.

Roots, \$1.50 each; three for \$3.75

from what we consider a very reliable source. All of this will go to our customers in this manner: When requested (see back of order blank) we will include a small packet of this seed with every Dahlia order amounting to \$10.00 or more until the seed is gone. Order early if you'd like to plant some of these fine seeds.



**THE U. S. A. (Stillman.)** One of the older standard varieties and still very popular. A large flower of vivid orange coloring—the only peony type Dahlia we grow.

**Roots, \$.75 each; three for \$1.85**

**VALIANT.** If the perfect cactus blooms of F. W. Fellows were painted a beautiful bright red, they would be much like Valiant. Long, slender, tightly quilled petals that curve in over a center that is always full.

**Roots, \$.75 each; three for \$1.85**

**BLUEFIELD GARDEN CLUB**

DOWN'S DAHLIA FARMS,  
CLAYTON, N. J.  
GENTLEMEN:

BLUEFIELD, W. VA., SEPTEMBER 28, 1930

I believe you would be interested to receive a report on one of your exceptionally fine dahlias, the variety "Jane Cowl," which was shown to advantage at our Fall Flower Show, held in the municipal auditorium on the 12th and 13th instant, by Mr. W. P. Hunter of this city.

Mr. Hunter had on exhibit one display of six blooms of this variety, all of which measured eleven inches across, and one single bloom in the single classes that was 13½ inches across and seven inches deep. The bloom was measured in my presence, so I can vouch for this statement.

Jane is certainly one of the finest in existence, and in our show it caused more comment than any other variety on exhibit, and I may add that we had some mighty fine blooms shown this year, regardless of the dry season. Many of the other new varieties were shown, but none of them came up to "Jane Cowl."

Yours very truly,  
C. A. PEARSON, President

JANE COWL is shown below in full bloom. Note the number of flowers. Read the letters on this page about the success others have had with this great Dahlia.



**WIZARD OF OZ. (Doolittle.)** Very large flowers of amber-pink, shaded with salmon. Formal decorative, with a multitude of blooms that will grow very large if disbudding is practiced,—which will also be necessary if good stems are desired. An all-round good Dahlia that will grace any garden.

**Roots, \$.75 each; three for \$1.85**

**WORLD'S BEST WHITE. (Murphy.)** A good white formal decorative with lots of substance and a good stem.

**Roots, \$.75 each**

DOWN'S DAHLIA FARMS,  
CLAYTON, N. J.

PARIS, KY., OCTOBER 10, 1930

DEAR MR. DOWNS:

We believe when a man has done something "real big" to tell him about it and not wait until he has passed on to his great reward. No doubt you have had hundreds of letters about your great dahlia, "Jane Cowl," but Mrs. Duncan wants to say a word regarding it, and asked me to write you as she is too busy. (And of course I have nothing to do, being District Manager of a big Insurance Co., and a kennel of dogs). She has raised "Jane Cowl" two years, has been a dahlia raiser for several years, winning many prizes for her many beautiful dahlias; and is somewhat an authority on the, shall I say, "breed." This year she has besides her many old varieties, Kathleen Norris, Mrs. A. B. Seal, Ft. Monmouth, Fred W. Patterson, and I don't know how many other new ones; but she considers "Jane Cowl" the greatest dahlia ever raised in so many respects. This year, as you possibly know, we have suffered from the worse drought we ever had, I guess, since the world began; and yet "Jane Cowl" stood this terrible drought and bloomed profusely from early to late. And today she is almost full of the most beautiful blooms.

Almost any time of day I go home I can find Mrs. Duncan standing beside "Jane Cowl," and admiring the wonderful blooms. Many times she has asked me to write you and tell you how much she thinks of this most wonderful dahlia. Let me tell you a little joke. Last year she was putting faith in "Jane Cowl" to win First at the Dahlia show here, but she wasn't blooming just right for the show. Some blooms had gone and others hadn't come out, yet plenty of buds. On the day of the show, one full bloom was all she could get, but she just knew she was going to win it. In loading the truck "Jane Cowl" got her head knocked off. I saw it fall on the ground, and picked it up and simply pitched it in a basket, and took it on to the show, where Mrs. D. was helping to arrange the show. When I showed her this beautiful wreck she almost gave up. That afternoon she was telling her troubles to some other ladies, and a young lady spoke up and said "Well Mrs. Duncan that dahlia got first. I saw it lying in the basket and started to throw it away, and I saw it was yours, so I took a hair pin and fastened it on to the stem, and in a few minutes the judges came around and awarded it first." Of course in a little while it had withered, but not until the judges had passed on it. Yes Mr. Downs, she is simply crazy about that dahlia, and says it is in a class all its itself. We both wish you well and thank you for producing such a wonderful flower.

Yours sincerely,  
C. A. DUNCAN

(Mr. Duncan is the world's largest breeder of Doberman Pinscher dogs.)

DOWN'S DAHLIA FARMS,  
CLAYTON, N. J.

SKAGAWAY, ALASKA, AUGUST 7, 1930

DEAR SIRS:

I have just picked my first bloom of "Jane Cowl," and I cannot refrain from writing to tell you what a glorious blossom it is as grown in my garden here in Alaska. Probably this is the first "Jane Cowl" to be grown in the Territory. This particular bloom measured exactly twelve inches across and six inches deep—beyond all doubt the finest thing in my collection of about 140 dahlia plants. I have been glad to tell many inquiring tourist visitors where this dahlia originated. You are indeed to be congratulated on producing such a noble flower.

Yours very truly,  
W. C. BLANCHARD

DOWN'S DAHLIA FARMS,  
CLAYTON, N. J.

WASHINGTON, N. J., DEC. 5, 1930

DEAR SIRS:

In the Spring of 1928 I bought one plant of "Jane Cowl." I removed the crown bud and "Jane Cowl" produced 29 blooms from 9 to 11 inches, with stems 18 inches to 2 feet and had several side shoots with buds when it was killed by frost. I have grown Dahlias for 23 years. "Jane Cowl" is by far the best grower and producer I have ever grown.

C. F. YAWGER



**JANE COWL ROOT FREE:**

We will send one root of Jane Cowl free with every order for roots or plants amounting to \$12.50 or more. See reverse side of order blank.



**JANE  
COWL**

JANE COWL (our own introduction). 'The ideal Dahlia' The bush is fairly tall, with vigorous dark green, leather-like foliage. Stems are stiff and strong, holding proudly erect great blooms of glistening bronzy buff and salmon shades. Since its sensational debut as a seedling, this Achievement Medal winner has proved itself to be one of the greatest Dahlias in existence—winning more prizes than any other variety. At least two foreign countries are included in its triumphs. Jane Cowl is pictured growing on the opposite page. Read the letters, too, on page 16.



[CONTINUED FROM PAGE THREE]

By the time the plant has grown another foot or foot and a half, its supporting string will be so low in comparison with its height that the plant would probably be blown over in a storm. So it should again be tied—higher up. You may find that three tyings are all that are necessary to hold up your plants. No matter how many are necessary, the work should not be neglected; for a rain soaked bush loaded with blooms is very top heavy and easily blown over if not given support.

While your bushes are still small you must decide whether you want just a few Dahlias of the largest possible size; more flowers slightly smaller; or a great many blooms regardless of size—and begin to train your bush accordingly by pruning.

When roots are planted, more than one shoot may come up from each tuber. If that happens, let only the best one grow and cut out the other. When green plants are set out, no more than one shoot will develop.

If allowed to grow naturally, this shoot will become the main stalk of the bush—finally to bear flowers on its very tip top. As it grows upward, other shoots, or branches, will be developed at every joint. These side branches are called laterals; and they too will produce blooms eventually. But as they grow these laterals will push out secondary laterals from their own joints—also to bloom later. So you see, if not pruned the bush will produce a great many Dahlias. They will be small, have short stems, and be generally unsatisfactory.

Then, there is the opposite extreme. By removing the laterals from the single stalk as it grows upward, you can concentrate the whole bush on the production of the one bloom on top. That bloom will usually be immense—though the centers of such blooms are not always perfect. This method is not altogether satisfactory. Not only does it cut down the number of blooms per plant to one; but it produces that one too early—during weather too warm for Dahlias—unless it is grown on a late planted bush. If you are bent on this method in order to produce your very largest blooms for a certain date, experiments alone will show you the best time to plant in your locality. You will probably find it to be between the middle and the last of June.

Probably the best course to follow is half way between the two extremes described above. At least a half dozen blooms can be produced that are very little smaller than as if only one had been grown on the bush. Many varieties will produce a dozen or more flowers that are all large. The number of blooms will depend on the number of lateral branches you allow to grow. The best laterals are those that shoot up from near the bottom of the main stalk—for they give you the blooms with the longest stems. You can pinch out the center stalk above the bottom two or three lateral branches if you wish. This will force the laterals to bloom more quickly. If you want the center stalk to bloom, pinch out all but the bottom two or three laterals—in which case the laterals will usually make no attempt to bloom until the center stalk has done so. As each lateral branch grows, remove the secondary laterals it will produce at each joint.

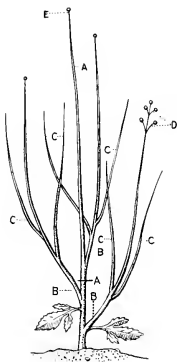


Diagram of bush shorn of leaves to show (A) main stalk; (B) laterals; and (C) secondary laterals. Had the main stalk been cut off where the line crosses it, the remaining laterals and their branches would have developed into even finer blooms. (E) shows the tip of each stalk after unnecessary buds (D) have been removed. See the text for more details.

This will give you a fine bloom on a splendid stem for every lateral allowed to develop from the base of the plant. If you want more than these few blooms, let more laterals grow. The lowest secondary laterals may also bloom if they are allowed to remain on the lateral branches. In this way the number of flowers on the bush can be regulated, to the great advantage of those allowed to remain.

The drawing on this page may give a better idea of the principle of disbranching. The leaves of the bush have been omitted to show the lateral branches and the secondary laterals that may be allowed to remain. The plant trimmed as shown should produce ten fine blooms if soil and weather conditions are right.

Disbudding follows the same idea as disbranching, though it calls for the removal of undesirable buds instead of branches. At the top of each branch the buds will form—usually in clusters of three. The center one of these three buds is called the terminal bud. It is the end of the branch. Two other buds will appear—one on each side of the terminal bud.

These are known as the lateral buds. The two lateral buds should be removed, as well as any other buds or shoots that may appear from the

leaf joints immediately below. That will leave only the terminal bud on the tip of each branch. If this appears to have been stung or maimed in any way, the best lateral bud may be saved and the weak terminal pinched out instead along with the other lateral bud. This concentrates the plant food intended for several buds into the one you have selected to remain—naturally increasing its size.

The difference between disbudding and disbranching is that the former starts from the top, removing buds and small shoots downward; while the latter starts at the base and works upward, removing branches. Both guide nourishment from the whole plant into the few remaining buds.

The time will vary with the variety and the weather, but you can expect a Dahlia to be in bloom in about three to four weeks after the bud was first formed. Do not remove buds while they are very young and cramped closely together. Wait until they are larger and well separated—about as big as a pea. We believe that many a bud is stunted by too early disbudding, probably because of an over abundance of plant food while too young to use it. Care should be used in removing either branches or buds. In the early morning, while filled with water, the buds and smaller branches may be easily snapped off with a quick downward jerk. Later in the day, when they are more dry and less brittle, a knife should be used to cut them. Unless cut or broken off clean, a string of the "bark" may be stripped from the stalk. This often hinders the flow of plant food to the bloom above and results in a lop sided flower.

Some short jointed varieties like to throw out numerous laterals from the base of the plant so late in the season they can not possibly bloom before frost. These should be cut out.

The proper use of fertilizer is another important step in growing big Dahlias. As recommended earlier, we think good stable manure, broadcasted in the fall, is the very best thing for the soil. But that is becoming more scarce every



year, and most of us must resort to the use of chemicals as a substitute.

Already we have mentioned bone meal for use before planting if the soil is not known to be good. If this was not done, spread a good handful of the 4-8-8 (or similar fertilizer) later around each hill—not closer than six inches—when the plant is from twelve to fifteen inches high. After that time we use nothing on our own fields until just before the first buds appear. Fertilizer applied early, results in a more rugged and tall bush growth, but it is of very little help to the size of blooms. We have seen ordinary sized Dahlias on bushes so tall it was necessary to pick the flowers with a step ladder—grown with an immense amount of fertilizer at planting time and none thereafter. On the other hand, we have known very mediocre bushes on poor soil to produce fine flowers when fertilizer was applied just before blooming time. If water is present in the soil, chemical fertilizers quickly become useable to the plant. For that reason, they should always be applied before a rain or after one, when the soil is damp. Not only does this hasten the use of the fertilizer, but it reduces the likelihood of harm to the plant if the chemicals are too strong. Because of the quick but not lasting results from this commercial fertilizer, it should be applied often but in small quantities. The very best results from chemical fertilizer can be obtained when the garden is irrigated and can be watered at will.

For Dahlias, we recommend the use of a good well balanced garden fertilizer—one that supplies all three of the plant foods usually lacking in soil. Those plant foods are nitrogen, phosphoric acid, and potash.

To state their functions roughly, phosphoric acid tends to help the structure of the plant, greatly aiding both root and foliage growth. It hurries ripening. Potash helps to make the tubers plump and the stems stiff. It tends to slow up maturity—here balancing the action of phosphoric acid. Nitrogen is concerned with every part of the plant, for it helps to make up the protein which is the basic substance of every plant cell. This, too, tends to delay maturity. The lack of nitrogen in soil will result in smaller leaves, stems and stalks. Yet we must be careful how we feed it to our plants. For an over abundance of this food may produce in the plant a too rapid, soft growth—and weaken its resistance to disease. The analysis of the fertilizer we use is 4-8-8. That means 4% nitrogen, 8% phosphoric acid, and 8% potash. Any good brand with the same or similar analysis should be satisfactory. Regardless of when fertilizer was used earlier, if any, we apply this to each hill just before the first buds appear. A good handful is thrown upon the soil with enough force to scatter it within a foot of the base of the plant, on one side of the hill. In two weeks we make another application, on the opposite side of the plant. Two weeks later, still another—making three in all. Each application of fertilizer is followed by the cultivator to stir it with the soil. After that, the cultivator is used no more, for the bushes are beginning to bloom.

It is not necessary to apply the plant food in a balanced fertilizer, though we recommend that method. If analysis shows your soil to be lacking in only one element, you can supply that with the more highly concentrated chemical fertilizers. Potash, for instance, can be supplied in muriate of potash or sulfate of potash. Bone meal, as mentioned earlier, is high in phosphoric acid content. So are basic slag and acid

phosphate. Nitrate of soda contains nitrogen in large quantities.

We do not recommend the use of these highly concentrated fertilizers by anyone not experienced with them—especially nitrate of soda. While the harmful effects of this nitrate of soda, when used to excess, were already mentioned; it is only fair to state that in proper quantities it is distinctly a stimulant. Many wonderful Dahlias have been produced with the aid of this chemical—and many hills have been burned up.

If you feel that you must try nitrate of soda, put one and one half level teaspoonfuls in a salt shaker. Shake this quantity over the ground around one hill, taking care not to sprinkle the foliage. Begin this when the first buds are about to appear and repeat every two weeks until September first. One and one-half teaspoonfuls per hill per dose. Then cultivate it in and water well. Or you can dissolve one ounce of nitrate of soda in one gallon of water. Sprinkle from a watering can over fifty square feet of ground surface; but do not wet the foliage. If you use nitrate of soda in either manner above, you should also use another fertilizer high in phosphoric acid content to balance the extra nitrogen and induce ripening.

Be very careful about watering. The larger plants, with more leaf surface, are more likely to require water than the younger ones, for it is through the leaves that water is withdrawn from the plant. If the leaves appear limp and hang like rags, then water is needed—though this is not likely often to happen if the soil has been kept stirred. If the soil is not already moist from recent rain when fertilizer is applied, then water the Dahlias after the application of fertilizer so it can be quickly used. The Dahlia plant uses more water while blooming than at any other time.

Too often is the hose played nightly on the growing Dahlia garden, dampening a little here and a little there but really wetting nothing except the foliage. This does more harm than good, for it draws the feed roots upward in search of the promised moisture—which isn't there. It is surprising how long a hose must be directed on one spot for the water to equal a half inch rainfall. It is claimed that less than that does not reach the feed roots when the soil is dry. If sprinkled with the watering can, one authority states that one pailful of water to the square yard is required to be beneficial. That is equivalent to one and one-third pailfuls to the hill if Dahlias are planted three feet by four.

The soil should be stirred after every watering—and especially after every rain. If the soil was allowed to remain undisturbed after a rain, all the moisture would be evaporated from the surface and a crust would be formed. This crust would become cracked, and from each tiny crack the moisture would be drawn from below—robbing the plants of water. In stirring the soil with a hoe or cultivator we prevent this evaporation by turning the crust into a blanket of dust through which moisture can not easily travel upward. This is called a dust mulch. When more rain falls, the surface is again packed, and the soil must again be stirred. That is why we cultivate after every rain. In some soils, especially clay or loam, the moisture works up from below and cultivation becomes necessary to prevent a crust even when it does not rain. As the Dahlias grow, this cultivation must become more shallow to avoid injuring the expanding feed roots.



Gradually they spread, and by the time the blooms begin to appear the feed roots nearly meet between the rows. From that time on the ground is not disturbed.

After the last cultivation it is sometimes possible on small gardens to spread straw around each hill and over all the ground. This is called a straw mulch, and it replaces the dust mulch no longer possible. It protects the feed roots—now near the surface—from the hot sun, catches the rain that falls, but lets no water evaporate.

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Unless you intend later to collect seed, do not allow blooms to remain on the bush after they have passed their prime. If old flowers are not removed, the bush will gradually stop blooming and try to produce seed. The best time to pick the flowers is in the early morning while they are still wet with dew, but they may be picked at any time if allowed to freshen up in a cool, dark cellar.

There are several ways to keep Dahlias from wilting after they have been cut. One method is called the hot water treatment. A few inches of the stems of wilting blooms are placed in water almost boiling hot. After three or four minutes they are taken out and quickly plunged deeply in cold water, where they should remain for several hours preferably in a cool dark place.

Another method is to submerge the stem, together with your hand and a knife, in a bucket or tub of water. While still under water, cut off the stem just above the lowest node, or joint. Do not draw the stem above water. Place the container holding the stems thus treated in a dark, cool spot overnight, and the freshening effect will be almost unbelievable.

If you want to save seed, let the flowers of several desirable kinds remain on their bushes. As they grow older, the centers of these blooms will open up; and the bees and the insects will carry pollen from some flowers to the stigmas of others, causing the fertilization of seed. Gently pull out the petals, as they wither and droop, from the backs of the opening flowers—until little is left but the pod. Otherwise these wilted petals form a ball around the seed pod that holds moisture and spoils much of the seed in damp climates. When dry, the seed pod may be removed from the plant, and the seed taken out at your leisure. Keep the seed dry and do not let it freeze. While the pollenization may be done by hand, this natural method is far less trouble. Splendid results are often obtained when the varieties allowed to seed are good, and when no inferior Dahlias are growing within several hundred yards.

If you have no greenhouse in which to start the seeds, a cold frame will do. Or set a box of soil on a radiator under a window in your home. Plant them in March or April. Sprinkle the seeds on top of the soil, about a quarter inch apart—then cover them with a quarter inch of sand. Do not

use more water than necessary to keep the soil just damp. Some seeds will come up within a few days, others will require weeks, and many of them will not come up at all. Transplant the seedlings into pots or flats when the first pair of true leaves appear. Later, after their roots have grown a little more and the danger of frost is over, they may be planted outside and cared for like other Dahlias. When they bloom, no two will be alike—and many will be worthless. These should be torn up and destroyed as soon as their defects appear. On the other hand, you might have something in the lot superior even to Jane Cowl or Jersey's Beauty. Don't feed your seedlings. Make them show you what they can do under adverse conditions.

A week or so after frost has killed your Dahlia vines, the tops should be cut off a few inches above the ground. Tree pruners with twenty-inch handles are fine to cut these stalks. Then with a spading fork, dig up the clumps; being very careful not to break off any roots or to crack the slender neck that holds them to the stalk. If the clumps are left on top of the ground after being dug they will become dry enough to store in one or two hours of good weather.

If you have a storage room (dirt floor preferred) that does not freeze in winter or become warmer than 50 degrees, you have an ideal place to store your Dahlias. Most folks have to use their heater cellar—where the fire keeps the air too warm and too dry for Dahlias. This can be overcome to some extent by the liberal use of water. Sprinkle it on the floor to cause evaporation whenever the air feels dry. Evaporation makes coolness. Also pour a little water occasionally right into the container that holds your clumps, and keep them covered with damp burlap bags. Examine your stock regularly. If you notice white mold, you should ventilate your pile of clumps or boxes to dry them out—for you have been using too much water. If your roots become shriveled, there is not enough humidity in the air and you should use more water.

Sometimes clumps are stored in slightly dampened peat moss, which does not dry out quickly and keeps the warm air away from the clumps. Peat is poured over a layer of clumps and the container is shaken to settle the moss snugly around the roots. This is repeated layer after layer until near the top, where more peat moss acts as a cover.

No matter how you do it, you will have some loss in storage. Conditions satisfactory to one variety will not always suit another. We lose some clumps every winter in an ideal storage cellar purposely built for Dahlias.

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Please remember that we will be glad to answer any questions you can for beginners. Not only are we willing to help, but such letters give us ideas for the revision of these directions from time to time. Please also remember that we will appreciate your order. Everything you purchase from us is guaranteed to be satisfactory in every way.

# Downs Dahlia Farms

Clayton, New Jersey



